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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/552,190

10/06/2005

Claude Brun

FR-AM 1947 NP

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31684

7590

01/08/2009

ARKEMA INC.

PATENT DEPARTMENT - 26TH FLOOR

2000 MARKET STREET

PHILADELPHIA, PA 19103-3222

EXAMINER

STALDER, MELISSA A

ART UNIT

PAPER NUMBER

1793

MAIL DATE

DELIVERY MODE

01/08/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/552,190	Applicant(s) BRUN ET AL.	
	Examiner MELISSA STALDER	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 October 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

The claim objections of the prior action have been overcome.

Claim Rejections - 35 USC § 112

The 35 U.S.C. 12 rejections of the prior action have been overcome.

Claim Rejections - 35 USC § 102 and 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-5 and 13 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Brun (US 6,325,920).

Brun teaches a process for the sulphurization of hydrotreating catalysts where a hydrotreating catalyst made of molybdenum, tungsten, nickel or cobalt in the oxide form on a porous inorganic support. Brun teaches treating the catalyst with an ester of orthophthalic acid with the general formula in claim 1 of the application where R¹ and R² can be identical or differently and represent an alkyl, cycloalkyl, aryl, alkylaryl, or arylalkyl radical where the radical can comprise 1 to 18 carbon atoms and optionally one or more heteroatoms, in joint use with a sulphurization agent such as the feedstock to the hydrodesulphurized.

Further by treating the catalyst with an ester of orthophthalic acid with the general formula and sulphurization agent in the form of the feedstock to the

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hydrodesulphurized, the catalyst is obviously brought into contact with the ester of orthophthalic acid in the absence of a "sulphur compound," as claimed (According to the present specification, a "sulphur compound" is carbon disulphide, an organic sulphide, disulphide or polysulphide, a thiophene compound or sulphur-comprising olefin - pg 5).

Regarding claims 3-4 and 13, Brun teaches that the preferred orthophthalic acid esters are those in which the R^1 and R^2 symbols represent identical alkyl radicals comprising 1 to 8 carbon atoms and more particularly, can be diethyl orthophthalate.

Regarding Claim 5, Brun teaches catalyst made of molybdenum, tungsten, nickel or cobalt in the oxide form on a porous inorganic support.

Claims 1-5 and 7-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brun (US 6,325,920).

Brun teaches a process for the sulphurization of hydrotreating catalysts where a hydrotreating catalyst made of molybdenum, tungsten, nickel or cobalt in the oxide form on a porous inorganic support. Brun teaches the use of an ester of orthophthalic acid with the general formula in claim 1 of the application where R^1 and R^2 can be identical or differently and represent an alkyl, cycloalkyl, aryl, alkylaryl, or arylalkyl radical where the radical can comprise 1 to 18 carbon atoms and optionally one or more heteroatoms. Brun teaches treating the catalyst with the ester of orthophthalic acid and a sulphurization agent to obtain catalysts which are more active with regard to hydrosulphurization of hydrocarbon feedstocks.

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It would have been obvious to one of ordinary skill in the art at the time of the invention that the orthophthalic acid ester and the sulphurization agent can be added to the catalyst in any order to achieve the advantage of obtaining catalysts which are more active with regard to hydrosulphurization of hydrocarbon feedstocks. It would have been obvious to one of ordinary skill in the art at the time of the invention that adding the orthophthalic acid ester and the sulphurization agent separately, at the same time or as a mixture would achieve the same purpose of providing both the ester and agent for treating the catalysts to obtain catalysts which are more active. Note that Brun et al. disclose "the joint use of a sulphurization agent and an ester or orthophthalic acid" (col. 3, lines 50-51) and "treating the catalyst with a sulphurization agent and an orthophthalic acid ester" (col. 6, lines 37-39), which broadly does not require that the agent and ester be added to the catalyst at the same time or require any order of adding and there is no mention that adding at the same time is required to achieve a more active catalyst.

Ex parte Rubin, 128 USPQ 440 (Bd. App. 1959) (Prior art reference disclosing a process of making a laminated sheet wherein a base sheet is first coated with a metallic film and thereafter impregnated with a thermosetting material was held to render prima facie obvious claims directed to a process of making a laminated sheet by reversing the order of the prior art process steps.). See also In re Burhans, 154 F.2d 690, 69 USPQ 330 (CCPA 1946) (selection of any order of performing process steps is prima facie obvious in the absence of new or unexpected results); In re Gibson, 39 F.2d 975, 5

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USPQ 230 (CCPA 1930) (Selection of any order of mixing ingredients is prima facie obvious.).

Regarding claims 3-4 and 13, Brun teaches that the preferred orthophthalic acid esters are those in which the R^1 and R^2 symbols represent identical alkyl radicals comprising 1 to 8 carbon atoms and more particularly, can be diethyl orthophthalate.

Regarding Claim 5, Brun teaches catalyst made of molybdenum, tungsten, nickel or cobalt in the oxide form on a porous inorganic support.

Regarding claims 7-8 and 14, Brun teaches that sulphurization of a catalyst consists in treating the catalyst with hydrogen sulphide mixed with hydrogen. The sulphurizing agent is a liquid feedstock with a sulphur compound such as carbon disulphide, thiophene, dialkyl disulphides, or diaryl disulphides.

Regarding claims 9 and 15, Brun teaches that DMDS has been recommended for the sulphurization of catalysts and Brun teaches that DMDS is used at 2% by weight in a feedstock.

Regarding claims 10 and 12, Brun teaches that sulphurization of the catalyst is carried out in a hydrotreating reactor in the presence of hydrogen. This process is known as "in situ" where the sulphur compounds are used in the presence of hydrogen.

Regarding claim 11, Brun teaches a sulphurization step can be first carried out in the absence of hydrogen. Brun teaches an "ex situ" process where the catalyst is pre-activated in the absence of hydrogen outside the refinery after having been impregnated with a sulphurizing agent. Then the sulphurization is completed in the hydrotreating reactor in the presence of hydrogen.

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Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brun (US 6,325,920) in view of Dufresne (US 6,077,803). Brun teaches the sulphurization of hydrotreating catalysts but does not teach the dissolving the ester brought into contact with the catalyst in toluene. Dufresne teaches that the before sulphurization, the catalyst can be treated with a stabilizing agent such as an ester which may be diluted in solvent (col. 3, lines 37-63). A well known solvent used to dissolve organic compounds is toluene. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the treatment of the catalyst with Brun and the use of the stabilizing agent in toluene taught in Dufresne because the liquid stabilizing agent stabilizes the incorporation of sulfur into the pores of the catalyst.

Response to Arguments

Applicant's arguments filed October 8, 2008 have been fully considered but they are not persuasive.

Applicant attempts to argue that comparative example 1 and examples 2 and 3 demonstrate this absence of sulfur. However, the examples only compare the use of a sulphur compound (example 1) to the use of first treating with an orthophilic acid ester before a sulphur compound, which only shows the improvement of the use of an orthophilic acid ester and sulphur compound compared to use of a sulphur compound alone. Therefore, applicant has not demonstrated that contacting catalyst with an orthophilic acid ester in the absence of a sulphur compound and then a sulphidation

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agent provides any unexpected results over providing the ester and agent at the same time or as a mixture.

Further, applicant argues that Dufresne fails to teach the limitations of claim 6. However, Dufresne teaches the preconditioning of a hydrocarbon processing catalyst where the stabilization step involves dissolving an ester in a solvent. Brun teaches the use of the specific esters claimed and Dufresne teaches the solvent. Applicant fails to make an argument as to why this combination would not have been obvious to one of ordinary skill in the art. Applicant merely states that Dufresne does not teach the specific esters.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MELISSA STALDER whose telephone number is (571)270-5832. The examiner can normally be reached on Monday-Friday, 8:00-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Melvin Curtis Mayes can be reached on 571-272-1234. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MS

December 30, 2008

/Melvin Curtis Mayes/

Supervisory Patent Examiner, Art Unit 1793